Gabriel Roeder Smith & Company
Consultants & Actuaries

OAKLAND COUNTY EMPLOYEES' RETIREMENT SYSTEM

SEVENTY-FIRST ANNUAL ACTUARIAL VALUATION REPORT

SEPTEMBER 30, 2015

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February 29, 2016

The Retirement Commission
Oakland County Employees' Retirement System
Waterford, Michigan

Dear Commission Members:

Submitted in this report are the results of the September 30, 2015 actuarial valuation of the liabilities, funded position and contribution requirements associated with benefits provided by the Oakland County Employees' Retirement System. The purpose of the valuation was to measure the System's funding progress and determine the employer contribution for the 2016-2017 fiscal year. This report should not be relied upon for any other purpose. This report may be provided to parties other than the Retirement Commission only in its entirety and only with the permission of the Commission.

The valuation was based upon the actuarial assumptions and methods adopted by the Retirement Commission, information furnished by the Retirement System, including System benefits, financial transactions, and individual members, terminated members, retirees and beneficiaries. Data was checked for internal and year to year consistency, but was not otherwise audited by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the data provided.

Future actuarial measurements may differ significantly from those presented in this report due to such factors as experience differing from that anticipated by actuarial assumptions, changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements.

To the best of our knowledge, this report is complete and accurate and the valuation was conducted in accordance with standards of practice prescribed by the Actuarial Standards Board in compliance with the applicable state statutes. Louise M. Gates and James D. Anderson are independent of the plan sponsor and are Members of the American Academy of Actuaries (MAAA) who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the actuarial assumptions used for the valuation produce results which are reasonable.

Respectfully submitted,

Louise Gates
Louise M. Gates, ASA, MAAA

James D. Anderson
James D. Anderson, FSA, EA, MAAA

SECTION A

EXECUTIVE SUMMARY

1. Required Employer Contributions – Fiscal Year beginning October 1, 2016

The computed County contributions are as follows:

Division	Computed Employer Contributions
General County	$ 0
Command Officers	0
Road Deputies	0
Corrections Deputies	0
Total	$ 0

2. Contribution Comparison

The chart below compares the recommended employer contributions in the current and prior year's valuations:

Total County Contributions for the Indicated Fiscal Year	
2015-2016	**2016-2017**
$0	$0

3. Reasons for Change

There are three general reasons why contribution rates change from one valuation to the next. The first is a change in the benefits or eligibility conditions of the plan. The second is a change in the valuation assumptions used to predict future occurrences. The third is the difference during the year between the plan's actual experience and what the assumptions predicted. Although there was no change in the employer contribution from the prior year, there was a decrease in the Retirement System's funding surplus.

There were no benefit changes reported to the actuary in connection with this valuation of the System. This valuation reflects new actuarial assumptions and methods adopted by the Retirement Commission pursuant to the 2015 assumption study, including:

- A change in the wage inflation assumption from 4.5% to 3.25% per year;
- A change in the mortality assumption; and
- A change in the actuarial cost method from the aggregate method to the individual entry-age method.

The change in assumptions and methods increased the value of System liabilities.

4. Plan Experience

Plan experience for the year ended September 30, 2015 was overall unfavorable. During the year, the return on System assets was lower than long term expectations (7.25% per year). The market value smoothing techniques used in this valuation of the System, phase in investment gains and losses over a 5 year period. As a result, the recognized rate investment return for the year was 5.93%. Additional information on System investments is shown on pages C-3 and C-4.

5. Reserve Transfers

For all employment divisions, the computed liability for members who have already retired and their beneficiaries is larger than the reported balance of the retiree reserve account. Transfers will be necessary to balance the retiree reserve with the retiree liabilities, as follows:

	General County	Command Officers	Sheriff Deputies*	Total
Retiree Liability	$469,198,067	$38,436,114	$89,078,277	$596,712,458
Retiree Reserve	438,721,263	35,814,330	79,645,184	554,180,777
Difference	$ 30,476,804	$ 2,621,784	$ 9,433,093	$ 42,531,681

* *Road patrol and corrections divisions are combined.*

We recommend that the Retirement Commission authorize the transfers described above.

6. System Funded Percent

The System's funding percent based on the actuarial value of assets (funding value) is 103.3% as of September 30, 2015.

If the market value of assets were used to determine the System's funding percent as of September 30, 2015 the result would be a funded percent of 98.0%.

Unless otherwise indicated, a funding status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, it is important to note that the funding status measurement presented in this report is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations and the need for or the amount of future employer contributions.

7. Asset Transfers

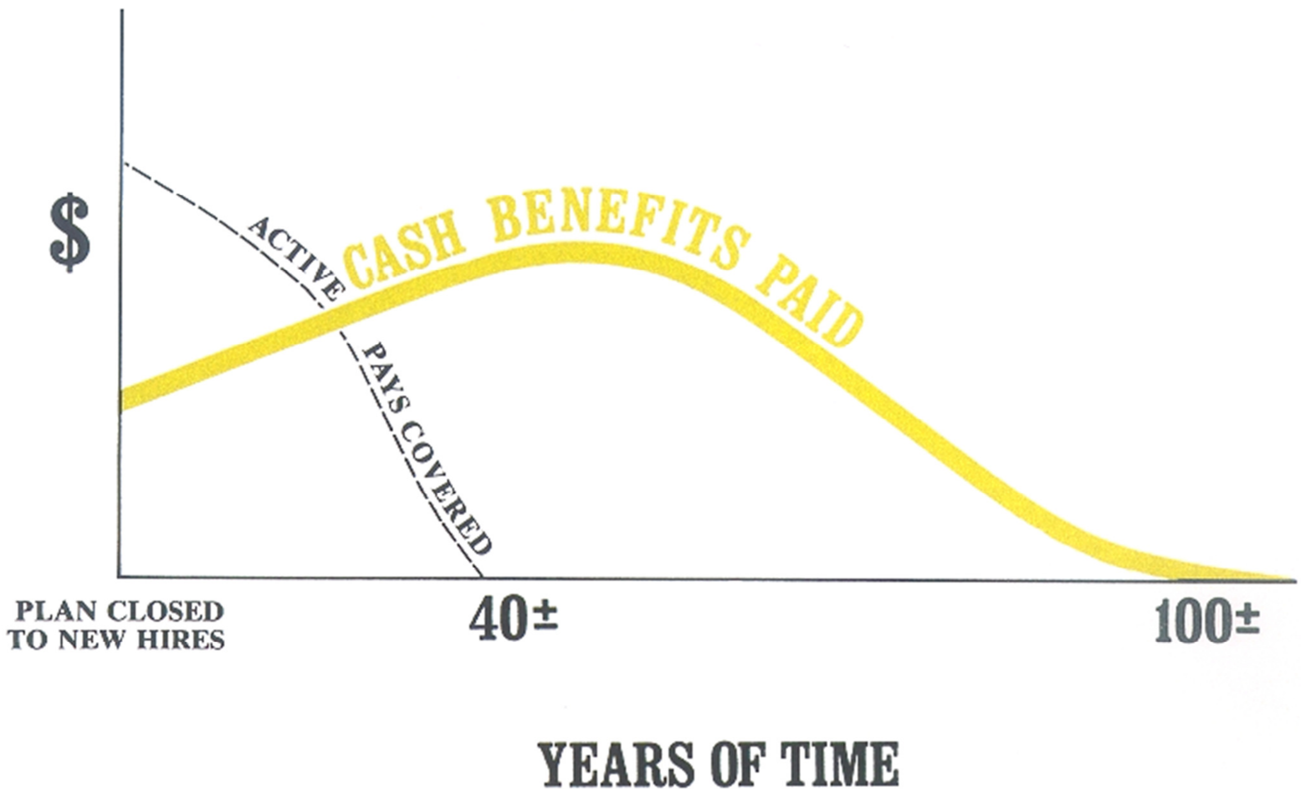
Consistent with past practice, this valuation reflects the transfer of assets (within the pension trust) from the General division to the Sheriff's department divisions of $7,961,187. This transfer redistributes the funding surplus in the General division to the Sheriff's divisions such that the resulting employer contribution for all divisions is $0. The amounts transferred from the General division to the Sheriff's divisions are shown below.

Division	Transfer Amount from General Division
Command Officers	$2,262,369
Road Deputies	4,186,657
Correction Deputies	1,512,161
	$7,961,187

8. Looking Ahead

Although the System's experience and the change in actuarial assumptions reduced the value of the funding surplus since last year, sufficient surplus remains as of September 30, 2015 to keep employer contributions unchanged from the prior year. Given the current practice of using any funding surplus to reduce County contributions coupled with the prior year's investment losses (which have not been fully recognized), it is likely that the funding surplus will continue to erode. When the surplus is depleted, County contributions to the System will once again be required. These contributions will be at least equal to employer normal cost payments which are currently $2.0 million.

A CLOSED PENSION PLAN



A plan becomes closed when no new hires are admitted to active membership. The persons covered by the plan at the time of closing continue their normal activities and continue to be covered by the plan, until the last survivor dies.

CASH BENEFITS LINE. After a pension plan becomes closed, the usual pattern is for cash benefits to continue to increase for decades of time. Eventually the cash benefits will peak, and then gradually decrease over more decades of time, ultimately to zero. The last cash benefit is likely to occur a century after the time the plan is closed.

The precise amounts of cash benefits cannot be known now, and must be estimated by assumptions of future experiences in a variety of financial risk areas.

SECTION B

VALUATION RESULTS

RECOMMENDED CONTRIBUTION FOR THE FISCAL YEAR BEGINNING OCTOBER 1, 2016

Contributions for	Expressed as a % of Covered Payroll and Dollar Amounts				
	General County	Command Officers	Road Deputies	Corrections Deputies	All Groups Combined
A Normal Cost of Benefits					
Age & service	9.73 %	16.46 %	15.41 %	15.28 %	11.50 %
Disability	0.54	1.27	1.16	1.24	0.74
Death before retirement	0.61	0.65	0.60	0.60	0.61
Future refunds of member contributions	0.00	0.26	0.15	0.15	0.05
Totals	10.88	18.64	17.32	17.27	12.90
B Member contributions @	0.69	5.00	5.00	5.00	1.98
C Employer Normal Cost %	10.19 %	13.64 %	12.32 %	12.27 %	10.92 %
D Employer Normal Cost $	$1,393,403	$154,306	$304,044	$166,693	$2,018,446
E UAL payment / (credit)*	(2,894,517)	(154,306)	(304,044)	(166,693)	
Total Employer Contribution $ (D+E)	**$0**	**$0**	**$0**	**$0**	**$0**

* *Unfunded Accrued Liabilities were amortized over a period of 10 years using level dollar financing.*
@ *Includes weighted average contribution rates.*

DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY AS OF SEPTEMBER 30, 2015

	General County	Command Officers	Road Deputies	Corrections Deputies	Total
A. Accrued Liability					
1. For retirees and beneficiaries	$ 469,198,067	$ 38,436,114	$ 43,187,752	$ 45,890,525	$ 596,712,458
2. For vested and other terminated members	8,424,955	277,541	130,237	941,584	9,774,317
3. For present active members					
a. Value of expected future benefit payments	107,454,955	16,061,563	26,265,825	15,967,651	165,749,994
b. Value of future normal costs	8,006,396	829,584	1,624,259	937,218	11,397,457
c. Active member accrued liability: (a) - (b)	99,448,559	15,231,979	24,641,566	15,030,433	154,352,537
4. Total accrued liability	577,071,581	53,945,634	67,959,555	61,862,542	760,839,312
B. Valuation Assets (Funding Value)	597,888,600	55,055,384	70,146,203	63,061,378	786,151,565
C. Unfunded Accrued Liability: (A.4) - (B)	(20,817,019)	(1,109,750)	(2,186,648)	(1,198,836)	(25,312,253)
D. Funding Ratio: (B) / (A.4)	103.6%	102.1%	103.2%	101.9%	103.3%

DEVELOPMENT OF EXPERIENCE GAIN/(LOSS)
PERIOD ENDED SEPTEMBER 30, 2015

Actual experience will never (except by coincidence) exactly match assumed experience. It is hoped that gains and losses will cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below.

	All Groups Combined
(1) UAAL* at start of period	$(34,056,696)
(2) Normal cost for period	3,197,953
(3) Actual contributions	5,042,050
(4) Interest accrual on (1), (2) and (3)	(2,535,959)
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)	(38,436,752)
(6) Change from plan provisions	0
(7) Change in actuarial assumptions/methods	
(8) Expected UAAL after changes: (5) + (6) + (7)	(38,436,752)
(9) Actual UAAL at end of period	(25,312,253)
(10) Gain/(loss): (8) - (9)	(13,124,499)
(11) Gain/(loss) as percent of actuarial accrued liabilities at start of period	(1.81%)

*Unfunded Actuarial Accrued Liabilities (UAAL) as of 9/30/2014 based on new actuarial assumptions and methods.

CLOSED GROUP CASH FLOW PROJECTION
(DOLLAR AMOUNTS IN THOUSANDS)

Year Ending	Expected Benefits for Current Actives	Retirees	Inactives	Total
9/30/2016	$ 1,432	$52,526	$ 103	$54,061
9/30/2017	3,964	52,501	276	56,741
9/30/2018	6,057	52,395	333	58,785
9/30/2019	7,954	52,240	424	60,618
9/30/2020	9,660	52,014	493	62,167
9/30/2021	11,149	51,706	562	63,417
9/30/2022	12,481	51,322	648	64,451
9/30/2023	13,619	50,858	691	65,168
9/30/2024	14,547	50,313	750	65,610
9/30/2025	15,353	49,668	823	65,844

The projection was based on the assumptions and methods shown in Section D of this report.

SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

BRIEF SUMMARY OF BENEFIT PROVISIONS
SEPTEMBER 30, 2015

Eligibility	Amount
REGULAR RETIREMENT	
Sheriff's Deputies: 25 years of service regardless of age, or age 60 with 8 years of service.	2.2% of final average compensation (FAC) times the first 14 years of service plus 2.5% of FAC for each additional year.
Command Officers: 25 years of service regardless of age, or age 60 with 8 years of service.	Total service times 2.5% of FAC.
All Others: Age 55 with 25 years of service, or age 60 with 8 years.	Total service times 2.0% of FAC for Plan A members (2.2% for years in excess of 14 for contributing members). Total service times 1.8% of FAC for Plan B members (1.98% for years in excess of 14 for contributing members). Maximum County Portion is 75% of FAC. Type of final average compensation - Highest 5 consecutive years out of the last 10. Some lump sums are included. Sheriff's Deputies hired after 12/31/92, Command Officers entering BU after 5/31/94 and BU48 nurses hired after 12/31/92 overtime pay is excluded from FAC.
DEFERRED RETIREMENT	
8 years of service - benefit begins at age 60. 25 years of service - benefit at age 55.	Computed as a regular retirement but based upon service and final average compensation at termination date.
NON-DUTY DEATH-IN-SERVICE	
10 years of service.	Computed as a regular retirement but actuarially reduced in accordance with a 100% joint and survivor election (50% joint and survivor benefit if less than 15 years of service and under age 60).
DUTY DEATH-IN-SERVICE	
No age or service requirements.	Upon termination of Worker's Compensation, a benefit equal to the Worker's Compensation benefit is payable to the spouse, children under age 18 and dependent parents.

BRIEF SUMMARY OF BENEFIT PROVISIONS
SEPTEMBER 30, 2015

Eligibility	Amount

NON-DUTY DISABILITY

10 years of service.	Computed as a regular retirement.

DUTY DISABILITY

No age or service requirements.	Computed as a regular retirement with additional service credited until attainment of age 60. Retirement benefits are offset by Worker's Compensation payments.

COST-OF-LIVING ADJUSTMENTS

	Annual increase based upon change in CPI, not in excess of 1-1/2% of base benefit. Additional one-time increases granted January 1, 1976, 1979, 1981, 1982, July 1, 1984, January 1, 1986, 1987, 1988 and October 1, 1997. A special one-time payment was made to retirees during 1990.

MEMBER CONTRIBUTIONS

Sheriff's Deputies.	3% of annual earnings for the first 14 years of service and 5% thereafter.
Command Officers.	5% of annual earnings.
All Others.	1% of annual earnings for years after 14 years of service for members electing the 2.2% or 1.98% benefit.

COUNTY CONTRIBUTIONS

Actuarially determined amounts which, together with member contributions, are sufficient to cover value of future benefits during the expected future working lifetimes of present members.

COVERAGE

The System was closed to new hires effective at various dates during 1994 and 1995.

REPORTED FINANCIAL INFORMATION AT MARKET VALUE
YEAR ENDED SEPTEMBER 30, 2015

Income and Disbursements

Market Value of Assets Beginning of Year:			$787,896,080
Revenues:			
a.	Member contributions	$ 487,218	
b.	Employer contributions	4,554,832	
c.	Net investment income	5,099,460	
d.	Total		10,141,510
Disbursements:			
a.	Retirement incentive payments	-	
b.	Pension benefits paid	52,080,937	
c.	Administrative expenses	296,825	
d.	Total		52,377,762
Market Value of Assets End of Year:			$745,659,828

Assets and Reserves as of September 30, 2015

Assets:			**Reserve Accounts:**	
a.	Cash and Deposits	$ 10,840,792	a. Member contributions	$ 5,382,036
b.	Interest and Dividends#	2,834,235	b. Reserve for benefits now being paid	554,180,777
c.	Fixed Income	226,405,373		
d.	Equities	360,714,504	c. Reserve for future benefits	186,097,015
e.	Real Estate	65,957,250		
f.	Other	79,479,403		
g.	Accounts Payable	(571,729)	Total	$745,659,828
	Total	$ 745,659,828		

Includes receivables.

DETERMINATION OF VALUATION ASSETS
SEPTEMBER 30, 2015

		2015
A.	Funding Value Beginning of Year	$787,896,080
B.	Market Value End of Year	745,659,828
C.	Market Value Beginning of Year	787,896,080
D.	Non-Investment Net Cash Flow	(47,038,887)
E.	Investment Income	
	E1. Market Total: B - C - D	4,802,635
	E2. Assumed Rate (I)	7.25%
	E3. Amount for Immediate Recognition:	
	7.25% x (A + D/2)	55,417,306
	E4. Amount for Phased-In Recognition: E1-E3	(50,614,671)
F.	Phased-In Recognition of Investment Income	
	F1. Current Year: E4/5	(10,122,934)
	F2. First Prior Year	0
	F3. Second Prior Year	0
	F4. Third Prior Year	0
	F5. Fourth Prior Year	0
	F6. Total Recognized Investment Gain/(Loss)	(10,122,934)
G.	**Funding Value End of Year: A + D + E3 + F6**	**$786,151,565**
H.	Difference Between Market & Funding Value	(40,491,737)
I.	**Recognized Rate of Return**	**5.93%**
J.	**Market Value Rate of Return**	**0.63%**
K.	**Ratio of Funding Value to Market Value**	**105.43%**

RETIREES AND BENEFICIARIES, SEPTEMBER 30, 2015
TABULATED BY TYPE OF BENEFIT AND OPTION ELECTED

Benefit Option Elected	Type of Benefit			
	Age & Service*	Disability		Total
		Non-Duty	Duty	
Regular	711	3		714
A-100% J & S	373	11	2	386
B-50% J & S	124			124
C-10 Year Certain	96	4		100
D(1)-100% J & S with pop-up	233	1	1	235
D(2)-50% J & S with pop-up	169	1		170
E-Social Security Equated				
Survivor	259			259
Total	**1,965**	**20**	**3**	**1,988**

* *Includes alternate payees under EDRO, beneficiaries of deceased members, and 27 individuals with $0 pension benefits as of September 30, 2015, receiving retiree health benefits only.*

INACTIVE MEMBERS AS OF SEPTEMBER 30, 2015
TABULATED BY ATTAINED AGE

Inactive members as of September 30, 2015 totaled 100, involving estimated deferred annual retirement allowances of $1,117,060. An inactive member is a person who has left County employment with entitlement to a retirement allowance upon attaining age 55 or 60, depending upon years of credited service. The schedule below shows the inactive members by age.

Attained Age	No.	Estimated Deferred Allowance
35 - 39	1	$ 6,267
40 - 44	2	16,040
45 - 49	19	263,868
50 - 54	31	461,913
55 - 59	45	351,143
60+	2	17,829
Totals	**100**	**$1,117,060**

ACTIVE MEMBERS AS OF SEPTEMBER 30, 2015
BY AGE AND YEARS OF SERVICE

	Years of Service on Valuation Date							Totals	
Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
40-44					11	1		12	$ 744,441
45-49					25	24		49	3,295,516
50-54				2	29	67	23	121	8,493,743
55-59				1	20	30	33	84	5,727,439
60					4	5	7	16	1,061,751
61				2	1	4	5	12	739,396
62					2	7	8	17	1,116,575
63						3	2	5	379,856
64						1	6	7	444,685
65						4	2	6	387,160
66					1	2	2	5	333,883
67					1		2	3	264,924
68					3			3	223,830
70+					1	1	5	7	526,557
Totals				**5**	**98**	**149**	**95**	**347**	**$23,739,756**

While not used in the financial computations, the following group averages are computed and shown because of their general interest. The chart shown above includes 257 General County division employees, 24 Command Officers, 41 Road Patrol Deputies, and 25 Corrections Officers.

Group Averages:

Age: 55.0 years
Service: 28.2 years
Annual Pay: $ 68,414

SECTION D

ACTUARIAL COST METHODS, ACTUARIAL ASSUMPTIONS AND GLOSSARY

VALUATION METHODS

The Individual Entry-Age Actuarial Cost Method is a method for determining the normal cost and the allocation of benefit values between service rendered before and after the valuation date. It has the following characteristics:

(i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and

(ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

Starting with the September 30, 2015 actuarial valuation, the individual entry age cost method was used to determine employer contributions.

Valuation Assets - The funding value of assets recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, funding value of assets will tend to be lower than market value. During periods when investment performance is less than the assumed rate, funding value of assets will tend to be greater than market value. The funding value of assets is unbiased with respect to market value. At any time it may be either greater or less than market value.

System assets are reported to the actuary in total. Reported investment income is allocated among the various employment divisions such that the rate of return for each division is the same as the rate of return for the entire System.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

Investment Return (net of expenses): 4.00% per year in excess of pay inflation. If pay inflation matches the assumption of 3.25%, this implies a 7.25% rate of return. The price inflation assumption is 3.0% per year.

This assumption is used to equate the value of payments due at different points in time and was first used for the September 30, 2015 valuation.

Pay Projections: These assumptions are used to project current pays to those upon which benefits will be based. The base economic assumption was first used for the September 30, 2015 valuation.

	Annual Rate of Pay Increase for Sample Ages						
	General County Members				Sheriff's Department		
Sample Ages	**Base (Economic)**	**Merit & Longevity**	**Total**	**Years of Service**	**Base (Economic)**	**Merit & Longevity**	**Total**
20	3.25%	4.00%	7.25%	1 to 7	3.25%	6.00%	9.25%
25	3.25	3.00	6.25	8 to 15	3.25	3.00	6.25
30	3.25	2.00	5.25	thereafter	3.25	0.00	3.25
35	3.25	2.00	5.25				
40	3.25	1.00	4.25				
45	3.25	1.00	4.25				
50	3.25	0.50	3.75				
55	3.25	0.50	3.75				
60	3.25	0.25	3.50				

Lump Sum Payments: Lump sum payments for unused sick leave and vacation were assumed to increase final average compensation for the present members by 1%.

Mortality: The RP-2014 Healthy Annuitant Mortality Table (unadjusted) projected to 2021 using a static projection based on the 2-dimensional MP-2014 improvement scales. This assumption was first used for the September 30, 2015 valuation. Sample values follow:

Sample Ages	Actuarial Present Value of $1 Monthly for Life		Future Life Expectancy (Years)	
	Men	**Women**	**Men**	**Women**
50	$147.31	$151.52	33.50	36.20
55	140.72	145.66	29.15	31.69
60	132.68	138.11	24.96	27.26
65	122.70	128.61	20.91	22.97
70	110.60	117.00	17.05	18.88
75	96.35	103.26	13.44	15.06
80	80.32	87.66	10.17	11.58

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. The membership size in this group is not sufficiently large to determine if there is a margin for mortality improvements. However, based upon our experience with a broad cross section of public sector plans similar in nature to this plan, it is our opinion that there is a provision for future mortality improvement in the current mortality assumption.

Rates of Separation from Active Membership: The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment.

Sample Ages	Percent of Active Members Separating within Next Year	
	General	**Sheriffs**
20	5.00%	4.00%
25	5.00	4.00
30	4.00	3.40
35	4.00	2.50
40	3.00	1.80
45	3.00	1.30
50	2.00	0.80
55	1.00	0.40
60	0.50	0.10
65	0.50	0.00

The rates were first used for the September 30, 2007 valuation.

Rates of Disability: These rates represent the probabilities of active members becoming disabled.

Sample Ages	Percent Becoming Disabled within Next Year	
	General	**Sheriffs**
20	0.02%	0.14%
25	0.02	0.15
30	0.04	0.18
35	0.06	0.23
40	0.16	0.30
45	0.19	0.51
50	0.31	1.00
55	0.71	1.55

These rates were first used for the December 31, 1992 valuation.

Rates of Retirement: These rates are used to measure the probabilities of an eligible member retiring during the next year.

Percent of Active Members Retiring within One Year					
General County		**Sheriff's Department**			
Ages	**%**	**Ages**	**%**	**Service**	**%**
55	20%	60	20%	25	40%
56	15	61	40	26	35
57	15	62	70	27	35
58	15	63	50	28	35
59	15	64	50	29	35
60	20	65	100	30	40
61	15			31	40
62	25			32	50
63	15			33	70
64	15			34	70
65	35			35	100
66	40				
67	50				
68	70				
69	80				
70	100				

A member was assumed to be eligible for retirement after attaining age 55 with 25 or more years of service (after 25 years of service regardless of age for Deputies and Command Officers), or age 60 with 8 or more years of service.

The rates were first used for the September 30, 2007 valuation.

GLOSSARY

Actuarial Accrued Liability - The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability." Under the actuarial cost method used the "AAL" differs somewhat from the value of future payments based on benefits earned as of the valuation date.

Accrued Service - The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions - Estimates of future plan experience with respect to rates of mortality, disability, retirement, investment income and salary increases. Decrement assumptions (rates of mortality, separation and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate appropriate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method - A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the normal costs to be paid in the future and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent - Benefits whose actuarial present values are equal.

Actuarial Present Value - The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization - Paying off an interest-bearing liability by means of periodic contributions of interest and principal, as opposed to a lump sum payment.

GLOSSARY

Experience Gain (Loss) - A measure of the difference between actual experience and experience anticipated by a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost - The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." An amortization payment toward the unfunded actuarial accrued liability is in addition to the normal cost.

Plan Termination Liability - The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for the future service and salary. The termination liability will generally be less than the liabilities computed on a "going-concern" basis and is not normally determined in a routine actuarial valuation.

Reserve Account - An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability - The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Valuation Assets - The value of current plan assets recognized for valuation purposes.

SECTION E

OTHER FINANCIAL DISCLOSURES

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (b)	Unfunded AAL (UAAL) (b) – (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) – (a)] / (c)
9/30/2006	$746,695,624	$668,999,513	$ (77,696,111)	111.6 %	$57,453,054	- -
9/30/2007#	799,307,403	652,118,082	(147,189,321)	122.6	55,704,389	- -
9/30/2008@	791,541,576	675,166,642	(116,374,934)	117.2	46,690,015	- -
9/30/2009	750,432,703	683,077,469	(67,355,234)	109.9	44,884,070	- -
9/30/2010#	745,094,735	692,409,285	(52,685,450)	107.6	42,686,155	- -
9/30/2011	727,690,746	712,159,061	(15,531,685)	102.2	38,275,780	- -
9/30/2012	717,654,902	713,972,065	(3,682,837)	100.5	33,706,963	- -
9/30/2013	716,944,068	719,348,810	2,404,742	99.7	29,498,703	8.15 %
9/30/2014#	787,896,080	726,487,842	(61,408,238)	108.5	26,271,160	- -
9/30/2015#	786,151,565	760,839,312	(25,312,253)	103.3	23,739,756	- -

Assumption/method change.
@ *Plan Provision changes.*

The aggregate actuarial cost method does not produce an actuarial accrued liability. The liability values shown above prior to 9/30/2007 are present values of future benefit payments (both accrued and future, net of future employee contributions). Effective with the 9/30/2007 valuation, the entry age actuarial cost method is used to develop the actuarial liability and the associated values shown above.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Actuarial Valuation Date	Fiscal Year Beginning	Annual Required Contribution	Percentage Contributed
9/30/2006	10/1/2007		100.00 %
9/30/2007	10/1/2008		100.00
9/30/2008	10/1/2009		100.00
9/30/2009	10/1/2010		100.00
9/30/2010	10/1/2011	$ 3,279,107	100.00
9/30/2011	10/1/2012	5,400,095	100.00
9/30/2012	10/1/2013	5,770,835	100.00
9/30/2013	10/1/2014	4,554,832	100.00
9/30/2014	10/1/2015	0	
9/30/2015	10/1/2016		

February 29, 2016

Ms. Judy Fandale
Retirement System Secretary
Oakland County Employees'
Retirement System
2100 Pontiac Lake Road
Waterford, MI 48328-0440

Dear Judy:

Enclosed are 15 copies of the report of the seventy-first annual actuarial valuation of the pension liabilities covering the Oakland County Employees' Retirement System.

Sincerely,

Louise Gates

Louise M. Gates

LMG:sc:dj
Enclosures